

WHAT IS THE ANSWER TO THE REDUCTION OF ACCIDENTS WHILE RESPONDING EMERGENCY TRAFFIC?

EXECUTIVE ANALYSIS OF FIRE SERVICE OPERATIONS IN EMERGENCY MANAGEMENT

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ABSTRACT

With emergency response for fire departments continuing to rise creating a potential for emergency vehicle accidents and liability, it is necessary to constantly evaluate response policies and pursue avenues that may reduce accidents and injuries to firefighters and the public. Although several changes in driver training and response policies have been made in the Hutchinson Fire Department over the past few years, little research has been conducted to study and evaluate the emergency response policy. The purpose of this research was to identify what is an emergency, to explore the major causes of accidents related to emergency vehicle response, and then to evaluate the current response policy and pursue options that may prevent or reduce accidents, injuries, or liability in Hutchinson.

This research employed both evaluative and action research to determine (a) what constitutes a “true emergency”, (b) the contributing factors, major causes, and legal issues relating to accidents involving emergency vehicles, (c) if there is a significant timesaving in responding emergency traffic vs. non-emergency and are there other ways to reduce the response times, (d) policies and procedures that other fire departments and local emergency agencies have implemented that address emergency response issues, (e) alternate methods available that may have a favorable impact toward reducing accidents for emergency vehicles while responding. Current literature and interviews were used to gain information concerning response policies, causes of accidents, impact of emergency traffic on response times, and methods for accident reduction, to assist in evaluating the current response policy in Hutchinson.

Results of the information revealed that the major cause of emergency vehicle accidents is related to operator error and not necessarily the result of red lights and siren response. Excessive speed, failure to yield at intersections, and a lack of driving skills, were the major contributing factors to accidents while responding. Research indicated most fire departments follow national standards for emergency response, such as National Fire Protection Association (NFPA) 1500, and have state laws in place that regulate emergency response traffic. While response times are less in most cases using emergency warning devices, it is often questioned whether the time saved is worth the risk. Safety of the public and personnel must be weighed against the potential risk, while still maintaining the public's expectation of efficient response and service. Most fire departments have addressed the hazards of response policies by slowing down their response to non-emergency in areas that are not considered to be an emergency. Other methods such as station planning, improved dispatch procedures, apparatus and personnel readiness, and preemption devices may also assist in the reduction of emergency response accidents while not compromising response times.

Four areas were identified in Hutchinson where changes could be considered that may reduce the potential for emergency response accidents. These include reviewing the current response guidelines and identify areas where a non-emergency response is advisable, coordination and review of joint response policies involving other emergency agencies, pursuing other technology methods for accident reduction such as preemption devices, and enhancing departmental driver/operator training and education.

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INTRODUCTION

In an era where call volumes and service levels continue to increase for the fire service, officials and department leaders must constantly evaluate response policies and programs to minimize accidents and reduce the potential for injuries to emergency personnel as well as the public. National Fire Protection Associations statistics for 1998 reveal that there were 14,650 accidents while responding or returning from an incident with 1,050 firefighter injuries (Karter, Leblanc, 1999). Accidents involving emergency response vehicles can have many negative repercussions such as injury of civilians and emergency personnel, loss of life, property damage, financial burdens, poor public image, and even litigation against the emergency agency or worker. Concerns by local officials about the risk involved while responding emergency traffic to many seemingly non-emergency calls, has prompted the need to evaluate the current response policy for the Hutchinson Fire Department.

The Hutchinson Fire Department has made several policy changes in the past several years to reduce the potential for accidents by increased driver education and stricter driving policies, but has not evaluated nor researched the causes, contributing factors, nor effective methods for accident reduction and prevention. The purpose of this research is to identify what is an emergency, to explore the major causes of accidents related to emergency vehicle response, and to evaluate the current response policy and pursue options that may prevent or reduce accidents, injuries, or liability involving emergency responders in Hutchinson. As a result of the research and evaluation of the current response policies, recommendations will be made to improve the current response policy and reduce accident and the future risk of injury and liability to citizens as well as

emergency personnel. Evaluative and action research methods were used to describe and evaluate the findings of this research.

Research was focused on determining the answers to the following questions.

1. What constitutes a “true emergency”?
2. What are the contributing factors, major causes, and legal issues relating to accidents involving emergency vehicles?
3. Is there a significant timesaving in responding emergency traffic vs. non-emergency and are there other ways to reduce the response times?
4. What policies and procedures have other fire departments and local emergency agencies implemented that address emergency response issues?
5. What alternate methods are available that may have a favorable impact toward reducing accidents for emergency vehicles while responding?

BACKGROUND AND SIGNIFICANCE

Although the essential mission of most fire departments is to save life and property, it has also traditionally been to provide the best possible service, which includes a quick response. Firefighters and even the public have traditionally accepted injuries and losses relating to emergency response as part of the risk associated with providing service. As call volumes rise as fire departments diversify services more units are on the street, which increase the potential for accidents. The cause of vehicle accidents while responding to an emergency, may be the result of emergency personnel trying to mix the mission of saving life and property with that of providing excellent service. In his research, Wilbur (1995) cites statistics that show a three times greater risk of accidents for emergency vehicles while responding with lights and sirens than using non-emergency response. The question that arises is whether the lights and sirens cause the

increase in accidents or possibly result from other factors such as driver error or speed. Ray Hawkins of VFSI, an insurance provider for more than 14,000 fire departments in the United States, suggests that 80%-90% of accidents involving public safety vehicles are the result of driver error (Spivak, 2000).

Statistics reveal that each year approximately 25% of all firefighter deaths, and a large percentage of fire fighter injuries, occur while responding to or returning from an emergency or other activity (Wilburn, 1995). According to the 1998 National Fire Protection Association (NFPA) statistics recorded in Fire Service Monthly (1999), vehicle crashes have accounted for 13% of all firefighters deaths over the past 10 years and has not shown any significant sign of a decrease. NFPA data also reveals that many of the deaths can be attributed to operator error, such as exceeding the speed limit, driving too fast for road conditions, failing to yield, failing to stop, and failing to wear seat belts (Washburn, Leblanc, and Fahy, 1999). For years, the public has turned a blind eye to accidents involving emergency apparatus, but with the recent proliferation of “Injured in an Accident? You May Be Entitled to Payment”, lawyers and judges are now holding emergency apparatus operators responsible for their actions. Although most state traffic laws allow for special driving privileges for emergency vehicle operators while using visual and audible warning devices, most state laws require that operators drive with a due regard for the safety of others. Berger (1999) cites an example of a case in Brooklyn, N. Y. in 1998 of a failure of a driver to operate his vehicle with due regard. In this case an ambulance ran a red light at a high speed and ran into a car killing three children. Although convicted on charges of criminally negligent homicide, the driver was spared prison time. Neil Rossman (1995) suggested that the most likely source of

injury or death as well as the greatest chance of being named in a lawsuit in connection with your fire department duties involve a traffic accident while responding to or from an incident. Historically, fire service activities were protected by the judicial doctrine of sovereign immunity, however this has slowly eroded as courts stress accountability and individual responsibility for injuries. Administrators and fire chiefs are having to take a hard look at the services they provide and methods to ensure that emergency personnel arrive safely on the scene with a minimal risk to the public. The days of responding to every call as an emergency may be fast coming to a close, as administrators rethink what constitutes a true emergency and how to get personnel to the scene safely.

The Hutchinson Fire Department, which is responsible for 124 square miles of urban and suburban territory, has been fortunate concerning the number of emergency vehicle accidents over the past 20 years. The reason may be in part to strict operating guidelines, a low call volume, and a good driving and training program. A report by Spellman (1997) indicated that during the period from 1976 to 1996 involving the Hutchinson Fire Department, that there were 30 accidents involving emergency units. Only 9 accidents were as a result of responding with red lights and sirens, with only 4 resulting in personal injuries. With a new Hutchinson Fire Chief hired in 1996, new policies and programs were initiated from 1997 to 1998. The Medical First Responder Program along with an increase in units responding to structure fires were several programs that increased emergency traffic and increased the potential for vehicle accidents. Operating guidelines outlining emergency and nonemergency response, speed limits, safety issues, and a new training program for relief-drivers, were also initiated in an effort to reduce the potential for vehicular accidents as a result of the increased

response activity. Joe Palacioz, the City Manager of Hutchinson, also saw a citywide need for accident reduction and provided a defensive driving class for all city employees. From 1997 to January 2000, there have been 12 accidents involving Hutchinson Fire Department personnel, with none directly related to emergency traffic.

Efforts such as traffic preemption devices, traffic calming devices, a reduction in the frequency of red light and siren use, and even reduced service levels utilizing a tiered response, have been initiated by many fire and EMS departments in an effort to reduce accidents. Some EMS organizations have tried to minimize the risk of serious ambulance accidents by screening the initial 911 calls and classifying them as urgent or non-urgent calls, according to Ludwig (1994). Several studies, including one published in the *Annals of Emergency Medicine* in 1995, have indicated that only 43.5 seconds was saved during emergency transport to the hospital by the use of lights and sirens, and therefore does not warrant their use except in rare situations (Hunt, et al. 1994). Gary Ludwig (1994) implies that in cities where every block has a traffic light or signal, that lights and sirens are a necessity.

The volume of emergency calls is steadily increasing as services are expanded and people have found that the quickest way to get help is to call 911. Where the 911 system was once used for only emergency activities, it is not called and used for a variety of reasons. It is often difficult to identify from a caller, what is a true emergency, which may often result in non-emergency type being responded to as an emergency.

As a risk manager, administrators have the responsibility to reduce or prevent accidents and the subsequent impact, by analyzing and studying the factors that effect accidents in their response area and initiating, policies, training, systems for prevention or

reduction of potential accidents. Information and exposure to issues impacting emergency response in the fire service gained during the National Fire Academy class Executive Analysis of Fire Service Operations in Emergency Management, has increased my awareness toward accidents and challenged our department to reevaluate current emergency response and driving policies. Valuable insight was gained from Unit 10 topics that included areas such as negligence, liability, and the operation of emergency vehicles.

LITERATURE REVIEW

Question #1

Because of the varied functions offered by the modern fire department and the resulting increased response activity, care must be taken to discern and define what constitutes a “true emergency”. No longer can the assumption be that if the 911 system is activated by a caller that the call is an actual emergency, however Sheila Tarvin (1994) suggests that realistically it is better to handle a unnecessary 911 call than miss a true emergency. She believes that the media and dispatchers do try and educate the public on what constitutes a “life threatening emergency”, however abuses will occur with the 911 system. It is not only the public that may have difficulty determining what a true emergency is, but in some cases with limited information, even the dispatchers may struggle. A 1999 study was conducted in San Francisco, County to determine if emergency dispatchers (who were paramedics with an average of 7 years of service) could determine a stroke (cerebral vascular accident-CVA) or transient attack(TIA) during a 911 call. Research revealed that only 31% of the 61 recorded CVA cases were

coded as a high priority call even though the word stroke was mentioned in most cases (Hunt, Brown, Prasad, & Jackson, 1999).

Donald Willy (1999) defines an emergency using Webster's Dictionary as a sudden generally unexpected occurrence requiring an immediate action, however there are a variety of other definitions used. A problem that many EMS providers face is that their definition may vary from the one the patient uses when they call 911 (Burns, 1999). Another definition Lee Burns suggests, which may include all possibilities, is that an emergency exists when the patient and their family can no longer deal with the situation at hand. Just because the situation is not an emergency in the eyes of the responder, does not make it any less of a crisis to the patient. Michael Wilburn (1995), in an article concerning emergency vehicle operation, cites the U.S. Department Of Transportation EVOC Training, which states that a true emergency is a situation in which there is a high probability of death or serious injury to an individual or group of people, or a significant loss of property and the actions of an emergency vehicle operator may reduce the severity of that situation. He suggests that the determination for a true emergency should be determined by information received from dispatch for units already on the scene. The U.S. Fire Administration Vehicle Driver Training Manual also uses the same definition as the Department Of Transportation for a "true emergency" (Peters, 1998).

Chief Allan Brunacini (1996) of the Phoenix Fire Department, in his book *Essentials Of Fire Department Customer Service*, suggest that family members are a special group and may require more attention than the normal incident problem. What a mother may perceive as dire emergency with a child at the time of the call, may turn out to be the problem as a result of her overreaction due to panic. He believes that a major

operational objective for a fire department that is concerned about customer service, is to arrive in time to interrupt the customers problem while it is still in progress. Brunacini also states that a standard 911 customer expectation is, that everyone and every part of the system will behave like the problem is an urgent event from the time of the call until it's over. If the fire service is to treat every person as a customer with a mission to deliver the best possible service, as implied by Chief Brunacini, then it stands to reason that question of what constitutes a emergency should be made by the calling party. In a study done in Phoenix, Arizona to determine what is an acceptable response time for the Phoenix Police Department, David Brewster (1994) determined that the number one priority of a customer was emergency response. He determined that the first priority as determined by the customers was getting to the emergency quickly.

Question #2

In order for risk managers to effectively determine a course of action for vehicle accident reduction, it is important that the causes and contributing factors involving emergency vehicle accidents be identified, as well as legal issues related to emergency vehicle operations. Driver/operators of fire apparatus are regulated by state laws, city ordinances, and department policies, which may vary depending on the locality. In general, driver/operators of emergency vehicles may disregard regulations that apply to the general public concerning the direction of traffic, direction of travel, and parking, however the operator must maintain complete control of the vehicle and must exercise care for the safety of others (International Fire Service Training Association, 1999). Although in most states the use of warning lights and sirens give emergency apparatus operators the ability to disregard specified traffic regulations, the laws and statutes do not

give emergency vehicles the right of way nor the right to disregard the safety of others. Steve Blackistone (1997), suggests the law gives vehicle operators special privileges but never justifies unsafe operations. Blackistone cites an example of a 1997 case involving a firefighter who faced misdemeanor charges of negligent driving for failing to control speed to avoid a collision and operating at a speed greater than reasonable. Even when lights and sirens are operating, the driver of an authorized emergency vehicle has the duty and responsibility to drive with the due regard for the safety of all others on the road (Wilburn, 1995). In the State of Kansas, laws are in place that regulate the rights, duties, and liabilities of an authorized emergency vehicles and the driver as well as regulations that regulate other vehicle operators and pedestrians concerning the approach of emergency traffic. The Kansas Fire Prevention Code (1993), states that pedestrians and approaching traffic are required to yield the right of way upon the approach of an emergency vehicle utilizing visual and audible signals. The Kansas Fire Prevention Code also requires audible and visual signaling devices to be visible and audible at a distance of 500 feet, which is also the minimum distance allowed for vehicles approaching a moving or stopped emergency vehicles when signaling devices are operated. IFSTA's Occupational Safety manual (1993) states the purpose for a warning device is to assist the driver/operator in obtaining the right of way from other motorists. The purpose for laws governing emergency response vehicles and the responsibilities of citizens who encounter emergency traffic is to increase safety, however the responsibility for driving with due regard for the safety of others ultimately falls on the driver/operator.

National Fire Protection Association (NFPA) 1500 Standards have been established with guidelines directing fire departments in areas such as apparatus

specifications, design, operation, maintenance, and even repair, to ensure the health and safety of personnel. These standards require the development of standard operating procedures for safely driving apparatus during emergency and non-emergency travel, responsibilities of safe and prudent operations, and criteria for vehicle speed, crossing intersections, and traversing railroad crossings (Telle, 1993). NFPA 1500 Standards also require that emergency vehicle operators come to a complete stop when encountering hazards such as red lights, stop signs, blind intersections, negative right-of-ways, when encountering a school bus with flashers, or anytime the driver cannot account for all lanes of traffic.

Within the City of Hutchinson, Kansas, an authorized emergency vehicle operator has been given certain privileges while responding to but not from an emergency call (City of Hutchinson, Kansas, Code Of Ordinances, 1996).

Sec. 23-107 Exemptions for authorized emergency vehicles generally.

1. Park or Stand irrespective of the provisions regulation other vehicles.
2. Proceed past a red or stop signal, but only after slowing down as may be necessary for safe operation.
3. Exceed the maximum speed limit so long as the driver does not endanger life or property.
4. Disregard regulations governing direction of movement or turning in specified directions.

Who is responsible or may share in the responsibility for an accident involving an emergency vehicle? In a story based on an actual accident, Peters (1998), suggests that the driver of the apparatus is responsible, as a result of a poor decision due to a lack of experience. Secondly, the officer may share the responsibility due to a lack of proper supervision and a s a result of putting an experienced drive at the helm. Third, the fire chief must also assume some of the responsibility for a failure to have sufficient standard

operating procedures in place to guide the officer in the driver selection process and to guide the driver as to his responsibilities when responding. Most fire departments and emergency service organizations, including the Hutchinson Fire Department, have standard operating procedures in place that follow the National Fire Protection Association (NFPA) standards for emergency response as well as state traffic laws.

Increased traffic density, particularly in urban and suburban areas, has contributed to the difficulty of safely operating an emergency apparatus. Lucia (1993) suggests that a greater population of elderly with hearing loss and slower reaction times, may be a factor with poor response to emergency vehicles. New technology including sound proofing have reduced or blocked out noise from the outside limiting the effectiveness of sirens along with the advent of high power radio systems make it difficult for drivers to be alerted of approaching emergency traffic.

It is not difficult to see the result of an emergency vehicle accident, but is sometimes difficult to determine the exact cause, because there may be several contributing factors. The latest NFPA report by (Washburn, Leblanc, and Fahy 1999) indicated that many of the firefighter fatalities involving highway vehicles in the past 10 years can be attributed to operator error. These include areas such as exceeding the speed limit, driving too fast for road conditions, failing to yield, failing to stop, and the failure to wear seat belts. Other factors that contribute to accidents suggested by International Fire Service Training Association (IFSTA, 1999), include poor road conditions, poor vehicle conditions, and a failure to obey traffic rules. Studies conducted by the Indiana University of Pennsylvania and the New York State Department of Health EMS program to compile statistics regarding collisions, revealed similar conclusions. These studies

indicate that that most collisions occur during ideal vision and road conditions.

IFSTA's (1999) Driver Operator manual groups fire apparatus collisions into five basic causes. These include:

1. Improper backing of apparatus.
2. Reckless driving by the public.
3. Excessive speed by the fire apparatus driver/operator.
4. Lack of driving skill and experience by the fire apparatus driver/operator.
5. Poor apparatus design or maintenance.

John O'Neal (1998) describes a phenomenon called the "wake effect or panic reaction" that may cause related rear-end accidents with other motorists from the reaction and the slamming on the brakes of civilians to the sudden seeing or hearing of an emergency apparatus.

Although recent opinions have been found that imply emergency response with lights and sirens are a major cause of accidents, little actual data was found that supported this opinion. Dr. Hunt et. al (1995) studied accidents involving EMS units involving lights and sirens and estimated that in the U.S. and Canada, 12,000 emergency vehicle crashes occur each year as a direct result of lights and siren use, however no statistics were found that supported this conclusion. Doug Wolfberg (1996), a law student, expressed his opinion that he believes that lights and siren use probably cause more deaths and injuries than it saves or prevents. He also states that he believes that their use leads to careless driving by overexcited drivers and is one of the most insidious contributors to EMS liability. Cases such as the one involving Michael Montecalvo in 1989 suggest operator negligence may be the key factor. Montecalvo was charged with using excessive speed, a failure to proceed with caution through a red light, and later convicted on the failure to act with due regards for others (Reeder, 1993). Wilburn

(1995) suggests that as a result of the abuse of lights and sirens by police, EMS, and firefighters, the public the public is ignoring vehicles responding to emergencies. He further believes that emergency vehicle operators continually abuse the privileges of requesting the right of way with lights and sirens to save a few seconds. Wilburn also states that vehicles responding lights and sirens have a three times greater chance of being in an accident compared to a non-emergency vehicle, however there was no current data available to prove this suggestion.

Early articles relating to emergency accident prevention relating to safe vehicle operation were directed exclusively towards operators, company officers, and training staff, focusing on safer apparatus, securing equipment, the need for training, and defensive driving. Leigh Hollins (2000) is emphatic that departments don't need to explore the individual accidents any further, but we need to look at the problem itself. He insists that a number of issues such as operator licensing, background checks, driver training, annual operator recertification, department rules and regulations, state laws, national standards, traffic-control devices and engineering controls, need to be addressed.

Question #3

The question of whether there is a significant time-savings when responding emergency traffic vs. non-emergency may be a question that each department should answer based on their own locality and conditions. Gary Ludwig (1994) suggests that the use of red lights and sirens and their effectiveness will vary from community to community. Population and gridlock in some cities will prolong the response time even with lights and sirens. In a 1995 study in the Annals of Emergency Medicine, researchers concluded that the transport time in a small city from the scene to the hospital was 43.5

seconds faster with lights and sirens than without (Wolfberg, 1996). While this time difference was significant, it was not found to be clinically significant to the patient except in rare circumstances. This study was based on the transport of patients from the scene after and not for the initial response. The audible siren was also never used continuously during any of the transports. The study indicated that the time difference between lights and siren transport and the non-lights and siren transport ranged from 5 minutes 11 seconds faster to 2 minutes 49 seconds slower (Hunt, et.al, 1995). Another study in the same 1995 report of emergency vehicle response in Salt lake City targeting fire department pumper-trucks within their initial response area using lights and sirens, experienced a 9% to 28% reduction in response times.

Regrettably there are few studies that have been conducted in the fire service that address the question of response times comparing emergency vs. non-emergency response and the time savings and or added safety that may or may not occur. In order to try and determine the impact of the traffic signals and congestion of traffic in Hutchinson for emergency response units, a simple comparison was conducted to try and determine if non-emergency response would have a significant negative impact on response times compared to an emergency response. The core area of the city has a significant number of traffic signals with no present preemption or traffic control devices in place. Steve Williams, a traffic engineer, advised that signal devices in the City of Hutchinson vary in activation from as little as 19 seconds at 11th and Baker to 1 minute 29 seconds at 17th and K-61, which doesn't include a 5-second change time (personal communication, April 2000). The comparison selected 5 random calls where squads had responded emergency traffic for a medical call. A private vehicle was then used to try and simulate a non-

emergency response from the station. It was understood that times may not be accurate due to the method for documenting time out of station and on scene in minutes and not seconds, the time of day, location of calls, and other factors, but the results give a basic impression as to the time difference. It should also be noted that, depending on which traffic signal the test unit was stopped at and how much traffic was involved, a significant impact on the non-emergency time could occur. Response times were figured from the time out of the station and not from the time the call came in to dispatch.

Unit	Address	Emg. Resp. Time	Non-Emergency Resp.	Difference
Sq-4	11 th & Severance	2 min.	5 min. 20 sec	3 min 20 sec.
Sq-4	1209 E. B Street	3 min.	3 min 5 sec.	5 sec.
Sq-1	201 E. Sherman	1 min.	1 min 41 sec.	41 sec.
Sq-1	207 W. 11 th	2 min.	3 min. 37 sec.	1 min. 37 sec.
Sq-1	314 E. 10 th	2 min.	4 min. 8 sec.	2 min. 8 sec.

Raw data does imply in most cases that a significant time difference does occur between an emergency and non-emergency response, although it appears that distance traveled, location, and the time of day, may be factors that can impact response times.

If increased response times are issues with an organization, other avenues that can be considered according to decrease emergency response include improved dispatch information and procedures, ensuring apparatus and personnel readiness at the station, and the relocation of fire stations. Quinlavin (1993) suggests that if short response times are your goal, improvement on activation times by upgraded paging systems, improve in-house crew response, street familiarization, and the use of other agencies to deliver the ambulance service, should be considered. John O' Neal (1998), a Battalion Chief from Portsmouth Fire, Rescue, & Emergency Services, suggests an EMS priority dispatching system would be one method to reduce the need for emergency lights and siren response as well as the providing of pre-arrival information that could save a life.

Question #4

Most fire departments have initiated some form of operating guidelines for emergency and non-emergency response to address the concern of emergency vehicle accidents and the concern for the safety of personnel and citizens. As a result of 70 accidents in 1995 and four in one day, the St. Louis, Missouri Fire Department initiated a “On The Quiet” response policy (Schaper, Gerner, 1997). The new policy covers 19 responses such as activated smoke and carbon monoxide detectors, automatic alarms, manual pull stations, wires down, lock outs, assisting PD, and dumpster fires. “On The Quiet” response by units uses no lights or sirens and requires operators to obey traffic rules. This policy was in addition to other policy changes that were implemented for urgent or emergency calls such as limiting the maximum speed to the posted speed limit, adherence to stop signs and traffic signals before proceeding, permanent driver assignments, and completion of a driver training program. Statistics for the St Louis Fire Department for 1996, indicated a reduction in accidents of 35% as well as the severity of the accidents (Schaper, Gerner, 1997).

Most fire departments in Kansas have similar policies concerning response policies, however some policies are much stricter while some have traffic controlling devices that assist emergency personnel in minimizing traffic accidents. Chief Larry Reece, of the Manhattan Fire Department, indicated Manhattan’s policy utilizes emergency traffic on most calls except wash downs, known chemical spills, carbon monoxide with no symptoms, down power lines, investigation, and reports that the fire is out (personal communication, March 2000). He indicated that the speed for emergency

traffic was limited to 10 miles over the posted speed and that the city does utilize preemption traffic signal devices to assist emergency traffic.

The Lenexa Fire Department, which also provides EMS service, has a similar response policy to most departments, however Chief Hobbs indicated that in addition, fires outside of a structure posing no hazard, all automatic alarms, and some medical calls are being responded to as non-emergency (personal communication, March 2000). The policy of the Lenexa Fire Department states that non-emergency response will be used with fire companies where pre-response information received in route indicates that a non-emergency response would not compromise the safety of any individual or increase the fire loss to property or exposures. The duty to decide the type of response is left up to the officer depending on information received. Chief Hobbs indicated Lenexa has been actively pursuing preemption devices since 1980, with approximately 75% of their traffic signal intersections having devices.

The operating procedures for the Salina, Kansas Fire Department for the most part mirrors Kansas State Traffic Laws and NFPA standards for emergency vehicle operations, with the exception of limiting the maximum speed to 10 mph over the posted speed while responding. Chief Girard advised that their fire department responds non-emergency to calls such as a carbon monoxide detectors activating with no patient symptoms, smoke detectors with no smoke or fire, and other times when the officer determines the need (personal communication, March 2000). The Salina Fire Department, which also provides advanced life support services in addition to fire /rescue services, responds to all medical calls, except routine transfers, using emergency traffic.

The Wichita Fire Department, which is the largest fire department in close proximity to Hutchinson, has a similar response policy to most fire departments in Kansas. Their standard operating policy outlines 23 types of non-emergency calls that will be responded to using normal or regular traffic policies unless the responding officer feels the alarm warrants a change to emergency traffic. (Wichita Fire Department Standard Operating Procedures, 2000). Most of the 23 calls for non-emergency are assists type calls, but also include bomb threats, poles on fire, lines down, known substance spill, assault calls, check electrical wiring, check a fire out, system alarm on a private residence, check an appliance, found explosive device, smoke detector, and a person struck in an elevator.

Deputy Chief Wright, of the Lincoln, Nebraska Fire Department, indicated his department uses a priority system (A,B,C, and D), to prioritize the type of response (personal communication, April 2000). Priority “A” calls are non-emergency with a “B” priority call considered an emergency for the fire department and non-emergency for EMS due to their medical response. All of their fire trucks carry advanced life support (ALS) equipment, however they do not transport patients to medical facilities. The Lincoln Fire Department has a response time goal of less than 4-minutes for 75% of all emergency calls with the adherence to the goal monitored using a fractal analysis method. In addition to other fire departments, information from other emergency agencies in the Hutchinson area concerning their response policies was researched. Randy Miller, the Director of Reno County EMS, advised that 75% of their calls are responded to with red lights and sirens with the balance being made up of non-emergency transfer call scheduled through the hospital (personal communication, February 2000). Miller,

advised that their department followed state and city provisions concerning traffic laws and unless advised by dispatch, will respond emergency traffic to all calls that come through the 911 system. If the transport is not an emergency, then units are directed to respond in a routine manner. There is not a policy in place for Reno County EMS to accept a triage code from Hutchinson Fire Department units on scene that would downgrade their response to a non-emergency. The Hutchinson Fire Department does have a policy in place that downgrades the response to a non-emergency response if requested by Reno County EMS or the Hutchinson Police Department (see Appendix A, Response Guidelines).

According to Lieutenant Higdon, the Hutchinson Police have three classifications of assignments depending on the threat to human life, the potential for personnel injury or loss of property, and requests for service (personal communication, March 2000). Calls classified as urgent with a potential for loss life, personnel injury, or a loss of property, allow officers to use lights and sirens and travel the most direct route to the incident. Calls classified as routine, involve non-violent crimes or no criminal activity and require that all traffic laws are obeyed and the normal flow of traffic is followed.

Question #5

In addition to stricter response policies, increased driver education and training, and increased maintenance and updated vehicle specifications for apparatus, there are other methods available that could help reduce the risk of emergency vehicle accidents. Peters (1998) suggests that the driver and his attitude, is the most important indicator of the probability of being involved in an accident. He further suggests that mental attitude may dictate the driver's physical skills and the ability to maneuver vehicle.

Jeff Lucia (1993) suggests that technological advances have led to improvements in warning devices and in computers, such as the Allsafe Driving Computer, that provide instant audio feedback to the operator about the driving conditions and his driving. Recent studies have also emerged again that suggest that the color of an emergency apparatus may be a factor in accidents. Spivak (1999) cited a 1995 study published by the Journal of Safety Research, which reported a higher accident rate (nearly 300%) for traditional red and white fire trucks as compared to vehicles painted lime-green. A similar study in the Journal of American Optometry Association indicated that lighter-colored fire apparatus, specifically lime-yellow, were involved in 50% fewer crashes than those painted darker colors (Spivak, 1999).

Other types of devices that may also reduce accidents are the traffic preemption devices that change traffic signals to green in the direction of travel and turn the signal red for all other direction of traffic. According to information supplied by the 3M company, the Denver Fire Department found it was able to reduce intersection accidents by 23% through the use of an Opticom preemption device on their units (Spivak, 1999). Steven Gayle (2000), the EMT-Critical Care Executive Director in Binghamton, New York, advised his community is using federal transportation funding to add an additional 50 preemption devices to the 46 intersections already covered, not for increased response times but for added safety.

Speed humps, bumps, chicanes, or even gates are being applied on streets across the country to address the issue of speeding and traffic control according to Kathleen Calongne (2000). Transportation divisions purport that delays to emergency vehicles by calming devices is only a tradeoff for increased safety, however cities such as Berkeley,

California and Boulder, Colorado have placed moratoriums on new speed bumps until emergency response issues are ironed out (Yi, 1998). Yi further stated that speed bumps are a part of a larger trend in public road management called “traffic calming devices”, which is becoming a predominant philosophy of some transportation engineers. A traffic study in Portland, Oregon in 1995, suggested that each speed bump adds an additional 9.4 seconds to the response time and that traffic circles added on an additional 10.4 seconds (McGinnis, 1997). McGinnis also suggested that although the speed bumps installed in many new neighborhoods do successfully slow traffic, it can slow response time, block paths for emergency vehicles, damage vehicles, cause trauma to patients being transported to the hospital, and may interfere with firefighter operations.

PROCEDURES

Definition of Terms

Emergency Response- A response to a call by an emergency agency such as police, fire or EMS utilizing either or both audible and visual warning devices in which the potential seriousness of the call dictates that immediate intervention is necessary to mitigate a hazard, prevention of further injury or loss of life, or protection or further loss or damage to property.

Non-Emergency Response- A response to a call by an emergency agency such as police, fire or EMS following normal traffic rules, because the seriousness of the incident does not dictate the need for immediate intervention to prevent further injury, loss of life, or loss or damage to property.

Preemption Devices- A device installed in traffic signals and on emergency units to reduce accidents at intersections with traffic signals by changing the traffic signal green when approached by an emergency vehicle using visual and audible signals and turning all other directions red.

Traffic Calming Devices- These are engineered methods of traffic control, such as speed bumps, humps, gates, etc. that have been installed on roadways and streets to reduce or slow the speed of all vehicles.

EMS- Represents the local emergency medical services for a given area or territory or organization.

This research project employed action and evaluative research methodologies to explore and evaluate the major causes and factors that contribute to accidents during emergency vehicle response to determine methods that may be effective to reduce accidents, injuries, and liability for the Hutchinson Fire Department. Legal requirements concerning emergency response were reviewed as well as the current response policy for the Hutchinson Fire Department in comparison to other emergency departments within the city, state, and neighboring states. Results and information gained will be the basis for recommendations for improvements to the current response policy with a goal to reduce future accidents, injuries, and a reduction in liability. Interviews were conducted with other emergency agencies and fire departments as well as extensive research of current literature. Literature research included trade magazines and journals, applied research reports, fire department books relating to apparatus and driver safety, and National Fire Protection Association Standards relating to the operation of emergency vehicles. Because of differing opinions and the limited data studies on red light and siren

response and its relation to accidents, every effort was made to keep an open mind on the subject. Recommendations and options for improvements to the current response policy are listed in a memo to the city manager (see Appendix B).

RESULTS

Question #1 *What constitutes a “true emergency”?*

A popular definition used by several organizations to define a “true emergency” is a situation in which there is a high probability of death or serious injury to an individual or group of people or a significant loss of property and the actions of the emergency vehicle operator may reduce the severity of that situation. One problem in defining what an emergency is can be a lack of information. Limited information received by the 911 dispatcher or the urgency demanded by a frantic caller, make it difficult to determine whether an incident is an emergency, a service call, or just a good intent call. Even with good information, it is sometimes difficult even for the trained, to determine what is a life-threatening emergency as seen in the “stroke” study conducted with 911 ALS dispatchers in San Francisco, County in 1999 by Hunt, Brown, Prasad, & Allison (1999).

Lee Burns (1999) suggests a more encompassing definition that would include more possibilities and focuses more on the crisis of the victim or patient. He suggested that anytime the patient and their family can no longer deal with a situation at hand it is a “true emergency”. Brunacini (1996), whose fire department stresses customer service, implies that most citizens expect every part of the system to react as though the incident was an emergency and feel like the responsibility of fire departments is to get there in time to interrupt the problem. While some believe the decision on the urgency of a call

should be based on information given to dispatch, others such as Tarvin (1994), believe it is a better to respond to an unnecessary call than to miss a true emergency. Research indicates there is not a clear answer to the question of what is a “true emergency”, but the public expects when they call for assistance, someone to be there promptly. The definition of emergency may be varied depending whether you are the service provider, the user of the service, or a lawyer who may be concerned about the risk or liability.

Question #2 *What are the contributing factors, major causes, and legal issues relating to accidents involving emergency vehicles?*

Kansas, like most state laws and local regulations, allow the driver/operator of emergency vehicles while using visual and audible warning devices, to disregard regulations that apply to the general public. Regulations apply concerning the direction of traffic, direction of travel, and parking, but emphasize the responsibility of maintaining control and due regard for the safety of others. NFPA 1500 has standards published that govern the operations of emergency vehicles which includes areas such as coming to a stop when encountering stop signs, red lights, blind intersections, negative right of ways, stopped school bus, or anytime the driver cannot account for all lanes of traffic (Telle, 1993). Although required by law when operating emergency apparatus, IFSTA (1991) states the purpose of warning devices is to assist the driver/operator in obtaining the right of way from other motorists. The responsibility for an accident does not just rest on the shoulders of the driver/operator, the officer and even the fire chief may be held responsible. Peters (1998) relates to an response accident where the officer and fire chief were also partially responsible for an accident as are result of not having operating guidelines in place to guide the officer in his duties and to direct the driver as to his responsibilities.

Several factors have been identified that contribute to emergency vehicle accidents such as increased traffic density and improved technology such as soundproofing in vehicles limiting the effectiveness of audible and visual warning devices, but the major factor appears to be driver error. NFPA research attributes most of the fatalities involving firefighters on highways in the past 10 years to operator error (Washburn, Leblanc, & Fahy 1999). Principal factors suggested include exceeding the speed limit, driving too fast for road conditions, failing to yield, failing to stop, and a failure to wear seat belts. Other studies in Pennsylvania and New York also indicated operator error as the major causes of emergency vehicle accidents. IFSTA (1999), grouped apparatus collisions into five causes. These include improper backing, reckless driving by the public, excessive speed, lack of driving skill, and poor apparatus design. Other secondary causes of accidents related by O'Neal (1998) were caused by a phenomenon called the "wake effect". This effect is caused by the sudden reaction of a motorist to the hearing or seeing of an emergency vehicle using audible and visual signaling devices. Hollins (2000) suggests that we don't need to look at accidents any longer, but need to focus on the driver/operator such as operator licensing, background checks, driver training and recertification, rules and regulations, state and national laws and standards, as well as helps such as traffic control devices.

Although case history supports a high number of accidents while using red lights and sirens, little data supported the opinion that emergency traffic (responding lights and siren) was the main cause of emergency vehicle accidents. Cases such as the 1989 Montecalvo case, indicate that the courts are now holding the operator/drivers responsible for accidents for a failure to maintain control and act with due regard for others, rather

than other factors (Reeder, 1993). Wilburn (1995) suggested that although a person has a three times better chance of being in an accident using emergency traffic, that abuse of the privilege of requesting the right of way by emergency driver/operators has caused the public to ignore these vehicles.

Question #3 *Is there a significant time savings in responding emergency traffic vs. non-emergency and are there other ways to reduce the response times?*

Research indicates varied opinions on the issue of whether responding emergency traffic actually saves time or whether it has a significant impact on the outcome. There has been little research documented in this area in the fire service. Wolfberg (1996) cites a 1995 study in the Annals of Emergency Medicine, concerning how much time could be saved running emergency traffic, involved EMS units transporting patients to a hospital and not for initial contact by the first responder. The study showed an average of 43.5 seconds were saved and it was not felt this time savings had a significant positive impact on the patient's outcome, however audible signaling devices were not always used and the study only involved EMS patient transport and not other emergencies. Another report cited in the same study of the Salt Lake City Fire Department found that response using red lights and sirens experienced a 9% to 28% reduction in response times (Hunt et al, 1995).

In an attempt to determine the time difference between emergency vs. non-emergency in Hutchinson, several random emergency calls were used and a non-emergency response was made to the same location following normal traffic regulations. It was known that the data would not be totally accurate as a result of the method used by dispatch to log response times, however a general impression on the time difference was made. On the five alarms where an emergency vs. non-emergency response was

compared, from 5 seconds to 3 minutes and 20 seconds were saved utilizing emergency response traffic. It was determined that the location of the call, distance traveled, time of day, and other factors may play a significant role in the time saved with emergency traffic and should have a impact on the type of response used.

Other methods that could be used for reducing response times without increasing vehicle speed and potential accidents may include areas such as improved dispatch equipment and procedures, apparatus and personnel readiness, and relocation of fire stations. Quinlavin (1993) suggests that if short response times are your goal, improve you activation times by upgraded paging systems, in-house crews, street familiarization, and the use of other agencies.

Question #4 *What policies and procedures have other fire departments and local emergency agencies implemented that address emergency response issues?*

Research indicated that most fire departments contacted have similar response policies which follow state laws and mirror NFPA guidelines, however each fire departments is somewhat unique in the types of calls determined as a non-emergency response. Although most fire departments had initiated some type of reform with emergency response, the “On the Quiet” policy initiated by the St. Louis Fire Department in 1995 was a drastic change in their response policies as a result of increased accidents (Schaper, Gerner, 1997). This non-emergency response policy requires driver/operators to follow traffic rules and does not allow for red lights and siren usage except for calls deemed as an emergency. In addition to changes in policies, additional driver training was conducted, annual certification required, and permanent driver positions implemented. Results did show a decrease in the amount of emergency response accidents for the following year after the program was implemented.

Response policies in fire departments such as Lenexa, Manhattan, Salina, and Wichita, were evaluated to determine what policies these Kansas departments were using. Although most policies were very similar, Lenexa appears to be the most progressive department and greater flexibility, allowing the officer to make the decision based on the call type and information received from the dispatcher. Chief Hobbs indicated that any outside fire that posed no hazard, any system alarm, and some medical calls was considered as a non-emergency and crews would respond accordingly. Lenexa also has preemption devices installed in 75% of their intersections, which should increase safety and reduce response times with a non-emergency response. Results from the Manhattan, Kansas Fire Department indicate a policy for non-emergency response which includes wash downs, carbon monoxide calls with no symptoms, down power lines, known spills, investigations, and fires that are out. Salina and Wichita also have similar policies for non-emergency responses, however Wichita also adds other type calls such as bomb threats, assaults, poles on fire, check electrical wiring, and persons stuck in an elevator (Wichita Fire Department Standard Operating Procedures, 2000). Most of the fire departments who respond on medical calls run emergency traffic unless the call is a routine transfer of a patient, such as to or from a nursing home. Deputy Chief Wright (2000) indicated the Lincoln Fire Department uses a priority system (A,B, C, &D), which identifies the type of response (emergency or non-emergency) and what unit or agency will respond (personal communication, April 2000).

Other agencies in Hutchinson, such as the Hutchinson Police Department and Reno County EMS, both have policies in place that follow state requirements for emergency response, however neither has a written policy involving a mutual response

with the Hutchinson Fire department. Miller advised that Reno County EMS responds to all calls that come into the 911 system as an emergency with transfer calls that come in through the hospital in a non-emergency manner (personal communication, February 2000). The Hutchinson Police Department's guidelines for emergency traffic or urgent response is based on whether there is a potential for loss of life, potential for personnel injury or a loss of property. Both agencies are addressed in the Hutchinson Fire Department's response policies in the event they are on the scene and a response is downgraded (see Appendix A Response Guidelines). There is not a policy in place with Reno County EMS to downgrade a medical call by the first responder to a non-emergency type response.

Question #5 *What alternate methods are available that may have a favorable impact toward reducing accidents for emergency vehicles while responding?*

Research indicates that in addition to changes in response policies, increased driving training and education, better maintenance and upgraded specifications on new apparatus, there are alternate methods that may reduce the risk for emergency vehicle accidents. Lucia (1993) suggested that improved technology in signaling devices and warning devices about driving conditions and audio feedback may be one method for cutting back on accidents. Several studies such as the report by the Journal of American Optometry Association indicate changes in the color of apparatus from traditional dark colors to lighter (lime green), have shown a 50% reduction in accidents (Spivak, 1999). Preemption signaling devices are being used by several Kansas fire departments such as Lexena and Manhattan. Spivak (1999), reveals information from the 3M Company, concerning the Denver Fire Department, that indicate that vehicle accidents were reduced 23% by the use of preemption devices. Other "traffic calming devices" that are gaining

popularity with traffic engineers to reduce the speed in some cities are speed bumps, humps, chicanes, and even gates. McGinnis (1997) reports that although the speed bump does successfully slow traffic, it can slow response times, block response paths, damage vehicles, and cause trauma for patients being transported. A study in Portland, Oregon reveal a 9 to 10-second increase in response times (Yi, 1998). Research indicates that the trade off between time and safety involving calming devices is still a controversial issue, with some cities going so far as to have placed a moratorium on new speed bumps until the issues of response policies have been worked out.

DISCUSSION

The focus of the research was to explore the major causes and contributing factors of accidents involving emergency response vehicles and evaluate and pursue options for reducing accidents, injuries and liability in Hutchinson. After evaluating the research, it was found that there were different definitions as to what constitutes a true emergency. Some such as Wilburn (1995) suggest that a true emergency may be one in which there is a high probability of loss of life, injury or property loss without immediate intervention. The public may have a different perception of what actually is an emergency as compared to that of emergency personnel in the field. It may also be difficult at times for a dispatcher to determine what is a true emergency based on the information received by the caller. While customer service should be at the forefront of our mission statement, the use of emergency response and the 911 system may be overused. There needs to be a balance between what constitutes a true emergency, the level of service the public

demands, and methods to ensure that emergency worker arrives promptly on the scene with out injuring themselves or the public.

There are laws, standards, and guidelines in place for the use of emergency vehicle operations on the local level, on the state level, and national standards such as NFPA 1500, that regulate the operation of emergency vehicles, usage of warning devices, and the responsibility of the driver/operator. While laws allow driver/operators to ignore normal traffic rules when using audible and visual warning devices, they do not relieve the driver/operator from driving with due regard for safety. Good standard operating procedures initiated by a department assist in directing the driver/operator and the officer in maintaining safe habits and outlining their responsibilities. A policy should also reflect what type of response (emergency vs. non-emergency) units should use based on the type of call and the risk

While it appears that many people blame the cause of accidents on the use of emergency lights and sirens, statistics offered by the NFPA (1999) and IFSTA (1999), indicated that operator error is to blame for most fire department fatalities and accidents. Although there are some cases that indicate secondary accidents caused by the “wake effect” or poor apparatus design, the majority of emergency vehicle accidents are caused by operator error resulting from excessive speed, failure to stop at intersections, and a lack of driving skill. Hollins (2000), appears to be on track when he stated we should focus on the areas related to the driver/operator such as training and recertification, rules and regulations, licensing and background checks, and also utilize other methods such as traffic control devices to assist in reducing vehicle accidents. While Wilburn (1995) suggests that a person has a three times better chance of being involved in an accident

while responding red lights and siren, this may be the result of excessive speed, lack of control or the abuse of right of way privileges given to driver/operators. Findings of court cases involving emergency vehicles has changed in recent years and has begun to place the responsibility for safely handling the emergency vehicle back on the driver/operator of emergency vehicles.

While studies are limited that give a true indication on the time saved by an emergency response with lights and sirens, the studies do indicate a quicker response is likely in most cases. Whether the seconds saved is beneficial or not or whether the time saved has a significant impact on the outcome, depends on whose perspective is being considered. An EMS study on transport times indicated that even with a average 43.5 second time savings, that there is not any appreciable impact on patient, however no studies were found that evaluated the impact of reduced response time on a patient based on the initial response. Research done in Utah did indicated a 9% to 28% reduction in response time using red lights and sirens involving the Salt Lake City Fire Department (Hunt et. al, 1995). The limited research done in Hutchinson comparing emergency response vs. non-emergency response did indicate that emergency response can save a significant amount of time based on factors such as the location of the call, the time of day, and distance traveled.

All of the fire departments contacted have some type of policy in place that follows state laws and mirrors national standards concerning the response using emergency and non-emergency response. Some fire departments such as Lenexa have greater flexibility in their response policy, but this may be the result of traffic preemption devices on 80% of their signaling devices and other factors. Others such as the Lincoln

Fire Department use a tiered response policy to try and identify the proper response level. It does appear that the types of non-emergency calls has expanded with most departments to include known spills, fires that are out, check electrical wiring, and down power lines. In most cases the dispatcher stills plays an important role in determining the actual situation based on the information received. Research indicated that all agencies respond with emergency traffic to the majority of medical calls unless the call comes in as a transfer or to assist a citizen. Both the Hutchinson Police Department and Reno County EMS have response policies in place, however a cooperative effort could be initiated especially with medical calls, to downgrade the EMS response once a first responder is on the scene and has triaged the patient.

Changes in response policies to down grade current emergency response to non-emergency, increased driving training and education, better maintenance of apparatus, and upgraded specifications for new apparatus, are methods that most departments are currently using to reduce accidents. While it appears that operator error is the major factor in most accidents and should be the main focus, reducing the number of emergency calls by limiting or downgrading certain emergency responses, should also prove beneficial. Although the Hutchinson Fire Department does not have a past history that indicates significant accidents related to emergency response policies, the potential for injury and liability is always present and should be constantly evaluated and changed when indicated. Over the past several years in Hutchinson, there has been a major effort by the fire department to reduce the risk while responding with emergency apparatus. Methods include an emergency response policy that identifies and defines responsibilities

and limits for the driver/operator, a Driver Training Program to teach fundamentals and driving skills, and an annual Driver/Operator Recertification Program.

Improved technology available with signaling and warning devices should help to make apparatus operators more aware of the surrounding conditions and help reduce accidents. Although research is once again indicating a impact on accident reduction by the use of lighter colors for apparatus, this would take a significant time frame and cost to implement and has been tried in the past with no indicated success. Traffic preemption devices are a method that has shown some success in accident reduction in cities such as Denver, Colorado, but has seen limited use in the past due to the cost factor to install them on the majority of traffic signals. Because traffic preemption devices regulate traffic at intersections where research indicates the majority of accidents occur, they are becoming more popular than other traffic calming devices such as speed bumps. The City of Hutchinson is currently looking at a preemption program if state legislation can be changed to allow the 911 tax to be used to assist with the funding.

RECOMMENDATIONS

Based on the findings of the research which include areas such as; what constitutes a true emergency, major causes of emergency vehicle accidents, time savings, methods for prevention or reduction of accidents, injury, and liability, and the evaluation of current policies, several areas were identified where changes could be made. Although emergency response itself was not found to be the major cause of emergency vehicle accidents, it is a contributing factor that may allow driver/operators an opportunity to commit operator errors. The main causes of emergency vehicle accidents were related to driver/operator error resulting from excessive speed, failure to yield, and a lack of driver

skills. Conclusions from the research indicate that by adjusting the emergency response policies along with better coordination with emergency other agencies, increasing driver education and training, and the use modern technology such as preemption devices, emergency response accidents may be reduced. Safety of personnel and the public must be weighed against the level of service delivered and the public's perception of what constitutes an emergency, in developing recommendations. Although there may be a "time savings" utilizing an emergency response, it must be weighed in relation to the type of call and the risk involved. There are four areas in Hutchinson that should be considered, which include changes to response policies, coordination of emergency response with other agencies, increased driver/operator training, and use of current technology. The recommendations are as follows:

- ☐ **Review the current standard operating procedures with fire department staff to identify service-type calls where emergency response traffic is not necessary or calls where a reduced response may be adequate. One example may be a system alarm in a building. Instead of dispatching 2-engines and a battalion chief responding emergency traffic, reduce the response units to 2-engines, with only the first unit responding with lights and siren.**
- ☐ **Support an effort for a traffic preemption program for Hutchinson as well as seek alternate methods to assist in the funding this project through the use of grants and the 911 tax.**
- ☐ **Work jointly with other agencies such as Reno County EMS on a policy to allow for a downgrade of emergency response to non-emergency once a first responder is on the scene and has evaluated the patient and determined a non-emergency response is indicated.**
- ☐ **Enhance the HFD Driver/Operator Training Program by working with the Kansas Law Enforcement Center to utilize their driving course facilities to enhance driver skills through additional training.**

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APPENDIX A (Hutchinson Fire Dept. Response Guidelines)

STANDARD OPERATING PROCEDURES RESPONSE GUIDELINES

Sec. 1-6.01

Purpose

The purpose of this policy is to identify the different criteria that govern both Emergency and Non-Emergency Responses for members operating Hutchinson Fire Department vehicles.

Service Call - Non Emergency Response

Definition...

Service Calls... A response utilized for the normal activities of the department. A non-emergency response does not require the use of warning lights and siren.

Any member of the Hutchinson Fire Department in the course of their duties that is required to utilize fire department or personal vehicles are required to operate such vehicles in a safe manner. Members are to obey all traffic regulations State, Local, and departmental policies at all times. Members are required to use seat belts in all riding positions at all times.

Members shall operate fire units in such a manner that the operator is in control of the unit at all times. Members driving fire units are to adjust speed and braking distances to the current weather and road conditions.

Members are to operate appropriate warning devices in the event the apparatus or vehicle cannot be parked in a normal position out of the trafficway. A minimum of the 4 - way flashers shall be in use for all fire apparatus, and if necessary all warning lights and traffic cones may need to be in use when parked along the roadways alley ways and parking lots.

Backing Fire Apparatus

Engines, Ladders, Quints, and Aerial Platforms, shall not be backed at any time without a back up person in visual line of sight of the equipment operator positioned at the rear of the apparatus. The back-up person shall have their helmet on when assisting the backing of the apparatus.

Discretion should be used when backing squads, and other fire units not listed above. If available, a back-up person should be utilized.

If necessary, Tankers, or Engines used as Tankers manned by only one person may be backed without the use of a backup person after a walk around of the apparatus to check for hazards. If staffed with two or more members, a backup shall be used. During shuttle operations, the Water Supply Officer should see to it that back up personnel are available.

The maximum speed for backing any fire department vehicle is 4 mph.

Inclement Weather

Drivers of fire units are to adjust speed and braking distances during periods of inclement weather and road conditions. The use of traction devices will be at the discretion of the Battalion Chief.

(Continued Appendix A)

Emergency Response Guidelines

Definition

Emergency Response... Is a response by fire units that necessitates an urgent arrival of the fire units to protect life, limb, property and / or the environment.

An emergency response requires the operation of warning lights and sirens consistent with Kansas Statutes 8-1720 (a), and 8-1738 (a-d). Members are required to use seat belts in all riding positions at all times.

Members are to operate appropriate warning devices in the event the apparatus or vehicle cannot be parked in a normal position out of the trafficway. A minimum of the 4 - way flashers shall be in use for all fire apparatus, and if necessary all warning lights and traffic cones may need to be in use when parked along the roadways alley ways and parking lots.

An emergency response requires that fire units will operate consistent with Kansas Statutes 8-1506 (a-d). In addition to the above mentioned statutes, the City of Hutchinson Fire Department regulations concerning emergency response shall be followed and consist of the following...

Maximum Speed Limits

Fire units responding to an emergency shall be in control of the apparatus at all times and observe a maximum speed limit of no more than 10 mph above the posted speed limit.

Intersections

Fire units responding to an emergency shall not cross a red light, stop sign, uncontrolled, and / or blind intersections until slowing to a complete stop or "rolling stop" and account for traffic in all directions before proceeding across the intersection.

Inclement Weather

Drivers of fire units are to adjust speed and braking distances during periods of inclement weather and road conditions. The use of traction devices will be at the discretion of the Battalion Chief.

Backing Fire Apparatus

Engines, Ladders, Quints, and Aerial Platforms, shall not be backed at any time without a back up person in visual line of sight of the equipment operator positioned at the rear of the apparatus. The back-up person shall have their helmet on when assisting the backing of the apparatus.

If necessary, Tankers, or Engines used as Tankers manned by only one person may be backed without the use of a backup person after a walk around of the apparatus to check for hazards. If staffed with two or more members, a backup shall be used. During shuttle operations, the Water Supply Officer should see to it that back up personnel are available.

Discretion should be used when backing squads, and other fire units not listed above. If available, a back-up person should be utilized.

The maximum speed for backing any fire department vehicle is 4 mph.

(Continued Appendix A)

Examples of Types of Emergency Responses

The following are emergencies that the Hutchinson Fire Department responds to using the above criteria for emergency response. This list is not all inclusive.

1. Structure fires
2. Grass fires
3. Vehicle accidents
4. Industrial accidents
5. Hazardous materials incidents
6. Medical emergencies.
7. Confined space rescues
8. High angle rescues
9. Airport emergencies
10. System alarms
11. Natural and man made disasters.
12. Mutual aid, Automatic Aid, and Requests for Assistance from other emergency agencies.
13. Vehicle fires
14. Structural collapse
15. Explosions

The following are special operating instructions for specific types of responses.

Response to Structure Fires

Fire units shall respond to structure fires utilizing the “Emergency Response Guidelines” listed above.

If the first arriving fire unit transmits a CODE 1

All remaining responding units will change to NON-EMERGENCY status until arrival on scene or released to return to service.

EXCEPTION... If the response is to an area that is so large that the first arriving officer cannot make a clear decision on the status of the reported fire, he may direct incoming units to continue their emergency response. (i.e. Hutchinson Hospital, Eaton Corporation, Consolidated Mfg., Hutchinson Mall, high rises, etc.)

Response to Vehicle Accidents and Industrial Accidents

All responding units will utilize the “Emergency Response Guidelines” listed above until arrival.

EXCEPTION

If EMS or PD Units transmits a disregard to fire units through dispatch, all responding fire units will change to NON-EMERGENCY status, and proceed to the location and assess for scene hazards or conduct a patient assessment, whichever has not been addressed by the agency that transmitted the disregard.

Officers may disregard and return to service if contact is made with **both EMS and PD** and information is given to the officer that patient assessment has been initiated and scene hazards have been addressed.

DISREGARD (10-22)

UNLESS SPECIFIED ABOVE, WHEN GIVEN A DISREGARD BY THE INCIDENT COMMANDER OR ANOTHER EMERGENCY AGENCY, THE OFFICER WILL DISCONTINUE THE EMERGENCY RESPONSE AND RETURN TO SERVICE.



APPENDIX B (Recommendations to the city manager)

Prevention
Rescue
Inspection
Disaster & Fire control
Education
Of the Community

Fire Chief Gary Frazier

Date: 5-1-2000
To: Joe Palacios, City Manager
From: Gary Frazier, Fire Chief
Subject: Recommendations for Reducing Emergency Vehicle Accidents and Liability

With the increase in emergency response call volumes continuing to rise with a potential for increased vehicle accidents, it is necessary to evaluate response policies to minimize accidents and reduce the potential for injuries to firefighters as well as the public. Accidents involving emergency vehicles can have many negative repercussions that can impact the citizens, the department, and the City of Hutchinson. Many changes have been made in the response policies as well as driver education and training to address concerns about safety, however it is necessary to constantly evaluate current policies and programs policy to ensure efficiency and safety.

Research was conducted to determine what constitutes a true emergency, the causes of emergency vehicle accidents, methods for prevention or reduction, injury, and liability, and an evaluation of current fire department policies. Although emergency response itself was not found to be the major cause of emergency vehicle accidents, it is a contributing factor that may allow driver/operators an opportunity to commit errors in judgement. The main causes of accidents were related to driver/operator error resulting from excessive speed, failure to yield at intersections, and a lack of driving skills.

Safety of personnel and the public must be weighed against the level of service delivered and the public's perception of what constitutes an emergency, in developing recommendations. Most departments have had some success in accident reduction by limiting the type of calls where emergency traffic is used. Other areas that should have an impact are continued driver education and training, the use technology such as preemption devices, and coordination of emergency response procedures with other emergency agencies.

Although the Hutchinson Fire Department has not had a significant problem with emergency response accidents, the potential is there. There are four areas within the response policy with the Hutchinson Fire Department that should be considered in an effort to reduce the potential for emergency vehicle accidents. The recommendations are as follows:

- ☐ **Review the current standard operating procedures with fire department staff to identify service-type calls where emergency response traffic is not necessary or calls where a reduced response may be adequate. One example may be a system alarm in a building. Instead of dispatching 2-engines and a battalion chief responding emergency on an emergency response, reduce the response to 2-engines, with only the first unit responding with lights and siren.**
- ☐ **Support an effort for a traffic preemption program for Hutchinson as well as seek alternate methods to assist in the funding this project through the use of grants and the 911 tax.**
- ☐ **Work jointly with other agencies such as Reno County EMS on a policy to allow for a downgrade of emergency response to non-emergency once a first responder is on the scene and has evaluated the patient and determined a non-emergency response is indicated.**
- ☐ **Enhance the HFD Driver/Operator Training Program by working with the Kansas Law Enforcement Center to utilize their driving course facilities to enhance driver skills through additional training.**

Thanks for your consideration.

Gary Frazier, Fire Chief